

REMARKS

Claims 1-14 are all the claims pending in the application, including new claims 6-14 added by the present Amendment.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller et al. (US 6,373,074, hereafter “Mueller”). Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller in view of Kohda et al. (US 5,151,604, hereafter “Kohda”). Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller in view of Kohda and further in view of Goodman et al. (US 5,874,744, hereafter “Goodman”). Claims 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mueller in view of Kohda and Goodman and further in view of Ohta (US 5,381,017). Applicant respectfully traverses the rejections with the following comments.

Mueller relates to a device for the line by line read out of information, such as x-ray information, stored in a phosphor carrier. FIG. 1 show an embodiment of Mueller’s device. A reader head 10 is used to read out image information from a phosphor plate 15. The reader head 10 exhibits a radiation source, which is a line of laser diodes 11. The line of laser diodes 11 is positioned perpendicular to the to the phosphor plate 15, such that the radiation emitted by the individual laser diodes strikes the phosphor plate directly. The line of laser diodes 11 exhibits numerous laser diodes arranged next to one another, which can stimulate the entire width of the rectangular phosphor plate that is capable of storing information.

Kohda relates to a radiation image storage panel employed in a radiation image recording and reproducing method utilizing a stimulable phosphor. Kohda is cited for its alleged teaching of a sheet having a phosphor layer and a reflecting layer.

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Goodman relates to a process and apparatus for retrieving information of improved resolution and sensitivity from a storage phosphor screen. Goodman is cited for its alleged disclosure of an anisotropic phosphor sheet.

Ohta relates to a cassette provided with a small window, which is closed by a plate-like member containing lead and through which an identification mark put on the radiation image storage panel housed in the cassette is read.

Regarding claim 1, the Examiner concedes that the disposition of the irradiation source and scan means is not explicitly taught by Mueller. The Examiner contends that because Mueller shows a two-scan means embodiment that the disposition of the scan means is an obvious design choice. The Examiner essentially requires Applicant to demonstrate criticality. Two effects are achieved by the claimed placement. First, the disposition of irradiation relative to the scan permits a smaller device in comparison to the bulkier two sided arrangement of Mueller Fig. 6. Second, the placement offers some shielding of the scan elements from excessive radiation. In the exemplary embodiment, the protection against radiation scatter is augmented by the radiation absorption plate 40. Therefore, for at least the above reasons set forth in the Applicant's disclosure, the placement of the scan device and radiation source should be given patentable weight. Mueller fails to address both of these matters in the manner claimed.

Moreover, the Examiner has failed to consider in the rejection that the detection means is also disposed from a side opposite of the radiation irradiation. The photoelectric elements are further protected from radiation exposure due to this placement.

Furthermore, in the case that scanning of excitation light and readout of stimulated emission are performed at the same side as that at which radiation is irradiated, a space for

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scanning an excitation light source and a photoelectric detection means would be required between an outer wall of the apparatus and the stimuable phosphor sheet. If such a gap exists, a subject and the stimuable phosphor sheet are spaced away from each other during recording of the radiation image, leading to blurring of a recorded image and deterioration in image quality. In order to prevent such deterioration in image quality, a mechanism for moving the stimuable phosphor sheet to a position close to the subject during radiation image recording, and moving the stimuable phosphor sheet to create a space enabling scanning of the excitation light source and the photoelectric detection means during readout would be required. Such a mechanism would render the apparatus large and complex.

The above mentioned problems can be solved by scanning excitation light and reading out stimulated emission only at the side of the stimuable phosphor sheet opposite from that at which radiation is irradiated.

Claim 1 is patentable for all of the above reasons.

For the rejections of claims 2-5, Applicant submits that claims 2-5 are allowable over the prior art, at least because of their dependence from claim 1. The secondary references fail to make up the primary deficiencies of Mueller.

With further regard to claim 5, Applicant has the following comments. Ohta discloses the provision of a radiation absorption plate in a cassette that houses a stimulating phosphor sheet. The radiation absorption plate of Ohta is fixed on the cassette. Ohta does not teach or suggest a radiation absorption plate placed close to a surface of the sheet on the side opposite of the side of the radiation irradiation at the time of the radiation irradiation on the sheet and moved

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away from the sheet after the radiation irradiation. Therefore, claim 5 is allowable for this additional reason.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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